

February 28, 2006

Department of the Interior
Minerals Management Service
Attention: Rules Processing Team
381 Elden Street, MS-4024
Herndon, VA 20170-4817



Re: Alternate Energy-Related Uses on the Outer Continental Shelf
RIN 1010—AD30

Dear Sir or Madam:

Hubbs-Sea World Research Institute (HSWRI) submits these comments in response to the Advance Notice of Proposed Rulemaking (ANPR) published by the Minerals Management Service (MMS) on December 30, 2005 (70 Fed. Reg. 77345). The ANPR announces the development of a new program under section 388 of the Energy Policy Act of 2005, which authorizes MMS to issue leases for the use of current or former energy production facilities on the outer continental shelf (OCS) for "other authorized marine-related purposes." Specifically, our comments respond to the request for comments on the use of OCS facilities for offshore aquaculture. HSWRI applauds MMS's interest in including offshore aquaculture in the program implementing Section 388 and we appreciate the opportunity to provide these comments.

HSWRI is well-qualified to provide these comments. Established in 1963 as a non-profit research foundation, HSWRI conducts internationally recognized research in the areas of aquaculture, bioacoustics, physiology and ecology. In particular, HSWRI is at the forefront of efforts to utilize the opportunity presented by existing OCS energy facilities for aquaculture. For several years, HSWRI has been developing the Grace Mariculture Project, a pilot offshore aquaculture project to be located on an existing oil platform off the coast of California. The Grace Mariculture Project proposal, a description of which is attached for your reference, well illustrates the tremendous potential that such facilities represent for offshore aquaculture.

To date, no such projects making use of OCS energy facilities for have been undertaken. We hope that the new leasing program will greatly facilitate the development of projects to realize the important benefits of such alternative uses for existing energy facilities.

Thank you for your attention to our comments. Please do not hesitate to contact me if you have any questions or require additional information.

Sincerely,

Donald Kent
President

Encl.

February 28, 2006

**Comments of Hubbs-Sea World Research Institute on the
Use of Existing OCS Energy Facilities for Aquaculture**

General Comment 1: Need for OCS aquaculture development

There is a clear need for increased aquaculture to meet domestic and worldwide demand for seafood. Current trends in global fishery production reveal that “capture fisheries” (i.e., fisheries which catch fish from wild stocks) will be unable to supply the growing demand for seafood. The annual U.S. demand for seafood products is expected to increase by 2.0 million metric tons by the year 2025 (Foreign Agricultural Services, USDA). This increase represents a small fraction of the projected rise in global demand.

Importation of seafood is currently the second largest contributor to the United States’ trade deficit in natural resources (NOAA), at \$7 billion per year in 2003. China, the country with which the United States has the largest individual trade deficit, is the world’s leading aquaculture producer (FAO, 2004). Unless domestic aquaculture expands significantly in the near term, rising domestic demand can only be met through increased seafood imports, because domestic fisheries are becoming overexploited and will not support production increases of the magnitude needed to satisfy demand. The National Oceanic and Atmospheric Administration (NOAA), recognizing that the United States must become more self-sufficient in seafood production, has set a goal of a five-fold increase in domestic aquaculture production, from 0.5 million metric tons per year to more than 2.5 million metric tons by 2025 (valued at more than \$5 billion). To attain this goal The U.S. Commission on Ocean Policy requested NOAA draft The National Offshore Aquaculture Act 2005 a comprehensive and environmentally sound framework to guide the expansion of marine aquaculture.

Most aquaculture in the United States is conducted at shore-based or near-shore facilities. Expansion within these areas is limited by environmental concerns, poor water quality, commercial and recreational development and user conflicts. Expansion of U.S. aquaculture, therefore, must include OCS waters. Locating aquaculture in the OCS provides substantial benefits, including large volumes of water to support large-scale production, excellent water quality to promote seafood health, and a geographic remoteness that minimizes user conflicts. In this context, existing oil and gas production platforms provide an ideal setting as well as significant infrastructure support for offshore seafood production.

General Comment 2: Need for research on use of OCS facilities for offshore aquaculture.

In addition to offshore aquaculture, the ANPRM notes the potential for use of existing OCS facilities for research. In this context, it is important to recognize that offshore aquaculture is at a very early stage. Much research needs to be done, including studies of the basic concept and compatibility of energy production facilities with aquaculture. In fact, HSWRI’s proposed Grace Mariculture Project is the only such project currently under development. This proposal, as described in the enclosed *Project Description*, consists of a comprehensive, three-year research program designed to evaluate the feasibility of establishing a mariculture (marine aquaculture) facility on an offshore oil platform. Located at Platform Grace in the Santa Barbara Channel off

California, the project would employ tank systems on the main deck of the platform, to culture early life stages of selected fish species, and sea cages moored to the nearby ocean floor, where animals cultured on the platform will be transferred for grow-out. Project goals include evaluating the design and implementation of on-platform tanks and sea cages, collecting environmental data to assist in development of standards for sustainable mariculture operations, and assessing the economic feasibility of oil platforms as operational bases for mariculture facilities.

This research will not only enhance understanding of the potential to house aquaculture projects specifically at energy facilities; it will also have important benefits for other aquaculture projects in the OCS. Research projects in the OCS are difficult to conduct, because they are far from any onshore base of operations. The opportunity to utilize oil and gas structures that are already in place, and are designed to support operations and workers for long periods offshore, would make possible research projects that probably could not otherwise obtain adequate logistic support.

Specific Comments

Our comments follow the lettering and numbering scheme set out in the ANPR, although we do not have comments on some of the questions raised by MMS. Accordingly, the numbering is not consecutive.

Specific Questions

1. *Are there regulatory regimes, either in the U.S. or abroad, that address similar or related issues that should be reviewed or considered as MMS moves forward with the rulemaking process?*

Yes. Federal agencies whose regulatory regimes are relevant to permitting offshore aquaculture projects include the U.S. Army Corps of Engineers, Environmental Protection Agency, U.S. Coast Guard, Occupational Safety and Health Administration, and the National Oceanic and Atmospheric Administration. In the State of California, the Department of Fish and Game has a regulatory program applicable to nearshore aquaculture projects.

Program area: Access to OCS Lands and Resources

General Issues

A – B. *Access and appropriate instruments.*

Offshore aquaculture projects differ qualitatively from the more typical resource extraction projects for which MMS provides access to OCS lands. The program elements described in the ANPRM, based on established forms of access rights for oil and gas exploration and production is not applicable to aquaculture, which does not extract resources from the environment. Rather, seafood stocks and feed are supplied by the applicant. An existing OCS facility and surrounding ocean waters constitute an OCS “resource” in the sense that they provide the base for operations and the medium for growing the seafood to commercially viable sizes. In some projects aquaculture may be solely based on the platform, while others may also include sea cages

anchored to the sea floor. In contrast to a mineral rights exploration or exploitation lease, the physical scope of an aquaculture lease would be limited to the platform itself and immediately surrounding area.

C. Solicit interest for development projects.

MMS should notify the public of OCS facilities that are available for alternative uses such as aquaculture through notices on its website and in the Federal Register.

D. Identify terms and conditions of use.

We recommend that MMS provide options for both long-term leases of OCS facilities for commercial aquaculture operations (e.g., 10 to 20 years, with renewal options) and shorter-term leases for research projects (tied to the duration of the research). As noted above, at this early stage of development of offshore aquaculture, many projects will be short-term research projects. Lessees should have the right to assign a lease to an assignee qualified to operate the project. We also recommend that MMS should establish an expedited review process for leases for research or pilot projects.

E. Identify geographical areas of interest.

As a general matter, we consider all existing OCS facilities as potential sites for offshore aquaculture projects. Interest in aquaculture projects will be at any platform where it is economically, biologically and physically possible to conduct the endeavor. Suitable platforms would have reasonably close onshore support facilities that can be reached by daily or semi-weekly supply boats to deliver feed and provisions necessary for maintaining facility needs. Additional factors include appropriate water depth to conduct desired type of mariculture project (e.g., on the platform in deepwater sites, and cage culture in waters shallow enough for anchoring the cages), and physical oceanographic features (e.g., wave height, water temperature and salinity).

F. Ensure fair competition.

As discussed more fully below, MMS may approve multiple proposals to use an OCS facility if the projects are compatible, because multiple projects will better serve the public need. As discussed in our general comment, we believe that the need to develop domestic offshore aquaculture is high. Offshore aquaculture operations in general appear to be compatible with most of the alternative uses that MMS mentioned in the ANPR, including research and recreation (diving, fishing), as well as alternative energy projects such as wind, wave and solar energy. Therefore HSWRI does not believe that there will necessarily be much competition. To the extent that there may be incompatibilities between proposed uses at a given facility. Aquaculture projects, particularly research projects, may not have financial resources to competitively bid for OCS lease interests. For this reason, HSWRI believes that, rather than competitive bidding, MMS should evaluate proposals on the basis of how each best serves public needs.

G. Process permits and applications.

The MMS leasing regulations should set a time limit for submitting proposals once a facility is available for alternative uses under section 388 of the Act. At the end of the time limit, MMS should review proposals and determine the project(s) that maximize the potential public benefit. MMS should give higher priority to proposals that are able to work in conjunction with other projects to maximize the potential public benefit. Offshore aquaculture is compatible with several other potential uses, such as research, recreation, or wind, wave and solar energy

H. Process pre-application resource assessments.

As noted above, unlike oil and gas projects, an aquaculture project does not extract resources from the environment. Therefore, “resource assessments” for potential offshore aquaculture projects consist of evaluation, as part of the application for a particular project, of the suitability of a particular OCS facility and surrounding ocean waters as a site for operations.

I -J. Allow concurrent developments; Minimize multi-use conflicts.

Offshore aquaculture operations in general appear to be compatible with most of the alternative uses that MMS mentioned in the ANPR, including research and recreation (diving, fishing), as well as alternative energy projects such as wind, wave and solar energy. Concurrent development should be encouraged and given priority to in order to maximize the potential public benefit. MMS should allow parties to submit joint applications or notify competing applicants that they have the option of resubmitting a joint application.

Specific Questions

3. *In cases where applicants or interested parties propose activities that would foreclose competing future uses, how should MMS estimate “a fair return,” especially if the competing uses would likely be public uses?*

For nascent technologies, such as offshore aquaculture, significant fees or rents will be disincentives for applicants proposing such projects. Moreover, HWSRI believes that a “fair return” in this context depends on the potential public benefit that a project is expected to create. The potential public benefits to society are immense, including ensuring a realizable way to meet increased seafood demand, increased protein supply with no land use, lowered health care costs; reduction of heart disease as well as many other diseases due to omega-3 fatty acids in seafood, energy conservation (harvesting seafood from aquaculture requires less fuel per pound than from captive fisheries), increased employment in the aquaculture industry and reduction of the federal trade deficit. In addition, reliance on aquaculture reduces the need to rely on wild fisheries resources, which creates an opportunity to rebuild depleted fisheries. Because of the significant need to develop domestic offshore aquaculture, our view is that such projects inherently generate a fair return in terms of public benefits and should not be subject to rents or fees, at least not until such projects demonstrate commercial viability and start earning a meaningful profit.

4. *What constitutes a geographical area of interest?*

In general, a geographical area of interest for offshore aquaculture is any existing platform where it is economically, biologically and physically possible to conduct offshore aquaculture operations.

5. *What assessments should we require prior to competition?*

As discussed above, given the inherent differences between aquaculture and energy leases, HSWRI does not believe that competitive bidding for aquaculture leases would be appropriate. However, applicants must show financial capability to carry out the proposed project. MMS should require the applicant to conduct site and financial viability assessments as part of submitting an application, including an evaluation of the availability of funding for the proposed project and the project's ability to meet its financial goals.

6. *How should MMS structure the competitive process and the application process used to issue OCS access rights? Should MMS auction access rights or engage in direct negotiation?*

As discussed above, HSWRI does not believe that competitive bidding for aquaculture leases would be appropriate. Therefore MMS should engage in direct negotiations and prioritize projects based on their potential public benefit.

7. *Should MMS take a broad approach to developing a program, or should efforts be targeted to specific regions?*

As discussed above, we believe that all OCS facilities are potential sites for offshore aquaculture. For this reason, MMS should develop a national program for offshore aquaculture, and not restrict it to any particular region.

8, 9. *How should MMS consider other existing uses when identifying areas for access? How should MMS balance existing uses within an area with potential wind and current energy projects?*

As discussed above, we believe that in many cases aquaculture is compatible with existing uses. MMS should balance any potential inconsistency with existing uses with the potential public benefit that could be gained from the proposed project.

11. *What criteria (e.g. environmental considerations, energy needs, and economics) should MMS consider in deciding whether or not to approve a project? What criteria should MMS consider for different competing projects (i.e. wind versus current) for the same site?*

MMS should evaluate project proposals based on potential public benefit and potential impacts on the environment. Public benefits include benefits at the nationwide level, such as the potential to advance U.S. aquaculture technology and management practices, and to increase production of seafood, as well as benefits to the local economy. In addition, when evaluating proposals for the same facility, MMS should also consider whether the projects could co-exist.

Program area: Environmental Information, Management and Compliance

General issues:

K. Information requirements needed for environmental management systems for any project.

See attachment “Proposal for monitoring the environmental effects associated with aquaculture production facilities operated by Hubbs Sea World Research Institute at the Grace oil drilling platform in the Santa Barbara Channel, California”

L. Assessments and studies of risks and impacts (site-specific and cumulative) associated with offshore energy and alternate use projects.

See attachment “MRS (Marine Research Specialists) Final Report Hubbs-SeaWorld Research Institute Platform Grace Mariculture Project November 2003”

M. Examples of best practices for environmental compliance, monitoring, and effectiveness being used in the U.S. and elsewhere.

To date there has been 108 ten year offshore aquaculture facilities in British Columbia; about 70 active in any given year. Over 700 environmental reports are now in existence since monitoring began in 2000. Washington State has eight farms in operation and all have complied with environmental guidelines since 1990. The best practices for environmental compliance, monitoring, and effectiveness in BC and Washington state are documented in the Ministry of Environment, Lands and Parks Marine Salmon Farming Compliance Report, April 2001 and the Saltwater Salmon Net Pen Operations Code of Conduct, Washington Fish Growers Association Fall 2002, respectively.

Three additional U.S. examples are Kona Blue in Hawaii, The University of Hawaii in cooperation with the Oceanic Institute and the University of New Hampshire Open Ocean Aquaculture program all of which adhere to best management practices; Best Management Practices for Hawaiian Aquaculture, The EPA guidelines for sampling and analysis methods and an annual environmental monitoring program and report, respectively.

It is also pertinent to note that there is in existence “A Code of Conduct for Responsible Aquaculture Development in the U.S. Exclusive Economic Zone” a collaborate effort of government and state agencies geared towards the development of responsible offshore aquaculture in the United States (<http://www.nmfs.noaa.gov/trade/AQ/AQCode.pdf>).

Specific questions:

12. What types and levels of environmental information should MMS require for a project?

As we have stated above, an applicant for an offshore aquaculture lease should evaluate environmental conditions as part of the resource and site assessment process that should be required as part of preparing an application. However, the permitting and lease application process would be subject to the National Environmental Policy Act (NEPA). NEPA requires

that the environmental consequences of the project be evaluated before final action. We believe that the NEPA review of an application will be the appropriate type and level of environmental information needed to evaluate a project. Since MMS states that it is not seeking authority over activities such as aquaculture and other agencies would approve the underlying activity, the permitting authority should serve as NEPA lead agency, and MMS would be a cooperating agency.

13. *What types of site-specific studies should MMS require? When should these studies be conducted? Who should be responsible for conducting these studies?*

These issues are addressed in the NEPA process.

14. *What should be the goals and objectives of monitoring, mitigation, and enforcement?*

The goals and objectives of these elements are ensuring compliance with permit and lease conditions, and gathering information for adaptive management of the project and future projects.

15. *What types of impacts are of concern? What are effective approaches for mitigating impacts? How can mitigation effectiveness and compliance with Federal environmental statutes be assessed?*

See attachments "Proposal for monitoring the environmental effects associated with aquaculture production facilities operated by Hubbs Sea World Research Institute at the Grace oil drilling platform in the Santa Barbara Channel, California" and "MRS (Marine Research Specialists) Final Report Hubbs-SeaWorld Research Institute Platform Grace Mariculture Project November 2003"

16. *What regulatory program elements lead to effective enforcement of environmental requirements?*

Monitoring, recordkeeping and reporting requirements lead to effective enforcement of environmental requirements. We note, however, that for aquaculture-related activities, agencies such as NOAA, ACOE, EPA, DFG, U.S. Coast Guard and other state and local agencies already have in place regulatory programs that govern environmental impacts. As such, MMS need not develop a separate environmental regulatory program for aquaculture projects.

17. *How should environmental management systems be monitored (by the applicant, the MMS or by an independent third party)? What should be the MMS roles versus the roles of industry for ensuring appropriate oversight and governance?*

In the case of aquaculture projects, environmental management systems should be monitored primarily by the operator of the project, with oversight by the relevant permitting agencies. As such, an oversight role of MMS or third parties is unnecessary.

Program Area: Operational Activities

General issues: Please provide information on:

O. Permitting pilot projects.

As noted above, pilot projects will be important at this early stage in OCS aquaculture development. MMS should provide a process to expedite applications for short-term pilot project leases.

P. Ensuring human health and safety on and adjacent to the project site.

Operators and their employees will be required to comply with existing OSHA regulations at all times. We believe that is sufficient to ensure human health and safety on an OCS facility.

Q. Protecting environmental resources during construction, production, and removal.

These issues will be addressed during the NEPA review and should be incorporated into permit and/or lease conditions. Since MMS does not seek regulatory authority over aquaculture, it is probably more appropriate for permitting agencies with regulatory authority to include environmental protection requirements in permits, rather than for MMS to include them as lease conditions.

R. Identifying design and installation requirements associated with new projects and modification of existing facilities.

Aquaculture projects will need to demonstrate that structural loading of culture systems is well within the limits of the capacity of the facility. Qualified structural engineers should perform an analysis of whether the facility can handle the load, once the oil and gas related equipment has been removed and the aquaculture equipment installed. However, aquaculture projects should not be subject to full-blown, cost prohibitive structural surveys, as these will be significant disincentives for project applicants. MMS should require the facility owner or operator to make available structural engineering documentation and information for the facility. Lease applicants should be able to rely on this information in conducting the load analysis for the project. Further, the applicant's structural engineers must confirm whether the facility can support, or be modified to support, the proposed aquaculture project.

T. Managing end of life and facility removal.

Responsibility for managing end of life and facility removal should continue to be the sole responsibility of the owner or operator of the facility at the time oil and gas operations on the facility ceased. However, MMS should not establish a fixed term for a lease or the life of an aquaculture operation (except as determined by the physical lifespan of the facility) because, as discussed in our general comment, the need for offshore aquaculture is projected to continue to grow.

U. Conducting oversight responsibilities (e.g., inspection, monitoring, enforcement).

As discussed above, because aquaculture projects will be subject to a variety of regulatory regimes relating to human health and safety and the environment, and MMS does not seek regulatory authority over aquaculture, the oversight role should be played by regulatory agencies such as NOAA, EPA, DFG and OSHA.

V. Identifying technology assessment and research needs.

MMS's role should be limited with respect to offshore aquaculture projects. NOAA and EPA are properly charged with assessing the state of aquaculture technology and identifying research needs.

W-X. Preventing waste; conserving resources.

These issues will be addressed during the NEPA process and by environmental permits and regulations applicable to aquaculture projects.

Specific questions:

18. What options should MMS consider as alternatives to facility removal? Are there unique issues (such as liability) associated with those options?

MMS leasing and decommissioning regulations should allow the option for aquaculture and other alternative uses to continue after oil and gas production ceases, as an alternative to facility removal, so long as the platform remains structurally sound. Responsibility for managing end of life and facility removal should continue to be the sole responsibility of the owner or operator of the facility at the time oil and gas operations on the facility ceased.

19. What engineering challenges should be considered when operating in an OCS environment?

An aquaculture project must be able to be conducted within the constraints of the original structural designs/loads of the platform. Qualified engineers should certify projects as noted above. Available aquaculture technologies would be adapted for the offshore environment, where appropriate (pump housings, electrical equipment, etc). Day to day operations, system and worker safety, should be addressed according to MMS's established guidelines and procedures for operating in the offshore environment on OCS platforms; for example, by performing structural and safety analysis.

20. What safety issues exist when operating an energy production facility on the OCS?

Aquaculture uses would have similar safety issues to existing OCS operations. Personnel would be trained in safety and emergency medical procedures. Where appropriate, any operation on an OCS facility would comply with existing MMS guidelines.

21. How should operational activities be monitored (e.g. annual on-site inspections with verification of operating plans)? Is there an appropriate role for the applicant and

independent third party certification agents? Describe existing models that could serve as a prototype inspection and monitoring program.

Aquaculture uses would have similar safety issues to existing OCS operations. Where appropriate, any operation on an OCS facility would comply with existing MMS and U.S. Coast Guard guidelines, including monitoring for safety and structural integrity of the platform. Monitoring aquaculture activities should be done by the appropriate agencies with regulatory authority, e.g., EPA, ACOE, NOAA.

Program area: Payments and Revenues

Specific questions:

23 - 28. What should the payment structure be designed to collect, etc.?

As noted above, fair return depends on the potential public benefit that a project may create. In addition, for nascent technologies, such as offshore aquaculture, significant fees or rents will be disincentives for applicants proposing such projects. Because of the significant need to develop domestic offshore aquaculture, our view is that such projects inherently generate a fair return in terms of public benefits and should not be subject to rents or fees, at least not until such projects demonstrate commercial viability and start earning a meaningful profit. The potential public benefits to society are immense, including ensuring a realizable way to meet increased seafood demand, increased protein supply with no land use, lowered health care costs; reduction of heart disease as well as many other diseases due to omega-3 fatty acids in seafood, energy conservation (harvesting seafood from aquaculture requires less fuel per pound than from captive fisheries), increased employment in the aquaculture industry and reduction of the federal trade deficit. In addition, reliance on aquaculture reduces the need to rely on wild fisheries resources, which creates an opportunity to rebuild depleted fisheries.

A reasonable fee imposed upon a for-profit venture makes sense. However, MMS should have a different fee structure for non-profit ventures and scientific research projects in order to encourage participation by these entities in this program. Offshore aquaculture, which is still in its infancy in the United States, is unlikely to be profitable in the near term, although the potential long term public benefit is substantial. Regarding those projects that are profit-making, as noted above, aquaculture differs from oil and gas production in that it does not extract any resources and the project provides the stock. In this sense, OCS leases for aquaculture use could be considered analogous to leases issued by the Bureau of Land Management for grazing on federal lands. In considering possible payment structures, BLM's practices for grazing leases are probably a better model than MMS's practices for minerals leases.

29. In section 8(p) of the OCSLA, as amended by Section 388 of the Energy Policy Act, the Secretary must require the holder of a lease, easement or right of way granted under that subsection to furnish a surety bond or other form of security. What options should MMS consider to comply with this requirement?

An aquaculture project operator must demonstrate financial capability and should be required to provide insurance or other form of security. The cost is expected to be modest given the limited risk of such activities. As noted above, liability for the structure should remain with the owner or operator of the facility at the time oil and gas operations on the facility ceased.

Coordination and Consultation

31. Should a broad approach be taken to developing a program or should efforts be targeted to specific regions with commensurate coordination and consultation?

As discussed above, MMS should develop a national program for offering leases to use existing OCS facilities for offshore aquaculture projects. We believe that all OCS facilities are potential sites for offshore aquaculture projects. Each facility should be individually assessed. It would be premature to focus on specific regions in exclusion of others.

32. Would the establishment of Federal/state cooperatives for targeted areas be useful?

Aquaculture projects on facilities in the OCS are localized activities with limited potential to affect states. Where there is a real potential for impacts on states, these would be addressed through the existing NEPA and coastal zone management processes. We believe establishment of an additional layer of federal/state cooperative procedure is unnecessary and could delay projects.

33-35. Other consultation with affected parties

As noted above, we believe that aquaculture projects on facilities in the OCS are localized activities. Other parties would have the opportunity to participate in the existing NEPA processes and additional consultation procedures do not appear to be necessary.